BEFORE THE STATE CORPORATION COMMISSION

OF THE STATE OF KANSAS

DIRECT TESTIMONY

OF

HAL JENSEN

WESTAR ENERGY

DOCKET NO. 15-WSEE-115-RTS

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. Hal Jensen, 818 S. Kansas Avenue, Topeka, Kansas.

Q. BY WHOM AND IN WHAT CAPACITY ARE YOU EMPLOYED?

A. Westar Energy, Inc. (Westar). I am Executive Director, Customer Programs & Services.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE.

A. I have a Bachelor's Degree in Business Administration from Washburn University. I have worked for 22 years for Westar in varying positions including field operations and customer service.

Q HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. My testimony will address two areas: advanced metering infrastructure (digital metering) and our pilot proposal for community solar power.

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. Westar will install over 120,000 digital meters in 2015. As I will discuss, if provided appropriate regulatory treatment, Westar believes that its customers could greatly benefit from a program that would result in the replacement of all remaining analog meters over the next five years.

I will also discuss Westar's proposal to implement a pilot program to include solar energy in our renewable energy generation portfolio and offer our customers an opportunity to purchase solar generation at a fixed price on a voluntary basis. Our pilot program will offer a solar subscription, at a long-term fixed rate to customers who wish to have a portion of their energy needs met from renewable solar generation.

II. DIGITAL METERING

Q. WHAT IS THE STATUS OF WESTAR'S ACTIVITIES RELATED TO INSTALLATION OF DIGITAL METERING?

A. As of December 31, 2014, we have upgraded approximately 92,000 analog meters with digital meters. These meters are located primarily in the Lawrence and Wichita areas. We have also upgraded our service in the Silver Lake and Rossville areas outside of Topeka.

Q. WHAT IS AN ANALOG METER?

A. Analog meters have long been used in the electric utility industry to measure residential consumption. Typically, these meters operate by counting the revolutions of a non-magnetic, but electrically conductive, metal disc which is made to rotate at a speed proportional to the power passing through the meter. The number of revolutions is thus proportional to the energy usage. Cumulative usage is displayed on a set of round clock-like dials which are read by a meter reader who makes his or her rounds once a month.

Q. WHAT IS A DIGITAL METER?

A. Digital meters are electronic devices that also track and record a customer's electric use. They automatically capture information about electricity consumption and, using a low-power wireless radio to communicate with the utility, periodically transmit customer energy-usage information.

Q. WHY DOES WESTAR WANT TO UPGRADE CUSTOMER METERING NOW?

A. The need to upgrade our metering infrastructure is driven by our customers' needs and desires for better service, ready access to information concerning their energy consumption and the ability to better control and manage their electric usage. Customer expectations are continually increasing and they expect the same convenient and easy access to information and service from their

electric utility that they receive from the other service providers with whom they deal on a daily basis. Upgraded metering is required to provide this information and ease of access for our customers.

Q. WHAT ARE THE BENEFITS OF UPGRADING ANALOG METERS WITH DIGITAL METERS?

A. From a customer perspective, the most obvious is the ability to access up-to-date electric energy information at any time through the Internet on what we refer to as our customer dashboard. This information is generally up to date within 24 hours and provides both cost and usage information much more readily than we can provide them with analog meters. We also provide weekly email summaries to customers who have an online account and offer both text and email alerts for unusually high usage and customer determined budget alerts.

Reliability of service is, of course, very important to customers. Digital metering helps us identify when customers lose service and the number of customers involved. This helps us better determine probable cause and enables us to get the right people and equipment to the site resulting in faster restoration. Digital metering also helps us support mobile text notifications to customers which inform them of outages and estimated restoration times. This is a significant customer satisfaction driver in that we can deliver the

peace of mind that we know they are out of service and we are working on the problem, whether they are home or not.

Digital metering significantly reduces estimated bills, greatly reduces the time from when new electric service is requested and when we can provide it, provides us the ability to offer optional programs such as the prepay "Pay As You Go" program and eliminates the need for employees to access the metering location.

Operationally, digital metering provides benefits in on time meter reading and billing accuracy along with improvements in operational efficiency and distribution system data. For example, in 2014, we were able to automate over 35,000 service orders that previously would have required us to send a technician to the customer's home or business. This saves expenses, provides timelier customer service and helps the environment by using less motor fuel. We are also improving our ability to recognize distribution system issues proactively. This allows us to send crews to investigate and repair a situation before it causes an outage, resulting in higher quality service and, for businesses, minimizing production or sales losses.

Q. WHAT ARE YOUR CURRENT PLANS TO CONTINUE THE DIGITAL METERING UPGRADE PROGRAM?

A. We plan to upgrade approximately 120,000 meters in 2015. These will be primarily in the Wichita area. The rate of replacement after

2015 will depend on whether the Commission's order in this case supports the recovery of the undepreciated costs of the legacy analog meters. Westar witness Mr. Kongs explains the reason we need Commission action similar to what many other utilities have been granted across the country.

Q. ARE ANALOG METERS OBSOLETE?

A. No. The analog meters that remain on Westar's system are operational and continue to provide us the basic information that we need to bill customers for their energy consumption. While that is the case, however, there is little doubt that customers would be well served by the replacement of the analog meters with digital meters given the additional information and control over consumption that such meters would provide our customers.

Q. HOW WILL WESTAR'S PLANS BE AFFECTED BY THE COMMISSION'S ACTIONS IN THIS DOCKET?

A. If Westar receives the accounting approval discussed in Mr. Kong's testimony, we will move to a schedule that would allow all customers' meters to be upgraded over the next few years.

The ability to complete the meter upgrade would position Westar and its service areas in Kansas with the most up to date services for residential and business customers.

III. PILOT COMMUNITY SOLAR PROPOSAL.

Q. WHAT IS COMMUNITY SOLAR?

A. Community solar provides an off-site option that allows customers to purchase renewable solar energy from a larger scale facility that is owned and maintained by someone else. Community solar offers can come in many different participation forms. We have kept our pilot program simple, using a fixed per kWh rate rather than requiring customers to pay a lump sum up front to purchase a share of the solar facility.

Q. WHY DO CUSTOMERS WANT COMMUNITY SOLAR?

A. Community solar is a popular option for customers who may not want an installation on their home or business or have a roof configuration, roof shading or direction that does not work well with a solar installation. Apartment and other renter customers can also participate with this option. Solar industry statistics indicate that only about 25% of homes and businesses are good candidates for rooftop solar. Consequently, an option like community solar is important to provide access to solar energy for customers who want it.

Q. PLEASE SUMMARIZE WESTAR'S PROPOSAL IN THIS DOCKET.

A. Westar proposes to allow customers to both support renewable energy generation and enjoy price certainty over the longer term. We propose that customers have the option to purchase a portion of their overall energy use from a renewable solar resource at a fixed rate: 15.6¢/kWh for up to ten years. The energy generated from a community solar array will be part of this renewable energy resource.

There will be approximately 150 shares of a 150 kW system. Customers will have the option of purchasing shares of one, two or three kW of renewable energy capacity and related energy and to lock in this price for that portion of their energy usage for up to ten years.

Q. WHAT WILL BE THE SOURCE OF THE GENERATION TO SUPPORT THIS PROGRAM?

A. Westar will install, own, operate and maintain approximately 100 to 200 kW of solar generation in sites throughout its service territory, such as parking lots and rooftops of highly visible commercial buildings.

Q. HOW MUCH ENERGY IS ASSOCIATED WITH ONE KW OF SOLAR GENERATION CAPACITY?

A. We estimate that in our service territory one kW of solar generation provides about 107 kWh of energy per month on average over the course of its 20 year operating life.

Q. WHY IS THAT?

A. Solar only provides generation when the sun is shining. Even during daylight hours, solar production will be reduced when cloud cover reduces the amount of sunlight reaching the solar panels. Based on the number of annual daylight hours in our service territory and the historical amount of annual cloud cover, we estimate the capacity factor of solar generation in our service area to be about 15%. We

used the estimated capacity factor to estimate the amount of generation we could expect from one kW of solar capacity. We also took into account the expected annual generation capacity degradation of about 0.5% which occurs in solar generation systems.

Q. WHAT IS CAPACITY FACTOR?

A. Capacity factor is the ratio of actual annual production to the theoretical maximum production if the equipment generated at full capacity for each of the 8,760 hours in a year. A 1 kW resource has an annual theoretical potential production of 8,760 kWh (1 kW times 8,760 hours in a year). Consequently, a solar generation resource with a 15% capacity factor would generate about 1,314 kWh per year or about 109.5 kWh per month in the first year of operation. However, given the typical loss of generation capacity of about 0.5% per year, we estimate the average monthly generation from such sources over their 20 year operating life to be approximately 107 kWh.

Q. HOW WOULD A BILL BE CALCULATED FOR A CUSTOMER WHO DECIDES TO PURCHASE ONE KW OF RENEWABLE ENERGY CAPACITY?

A. If a customer uses 900 kWh/month and purchases 1 kW of renewable capacity under the program, the customer will be deemed to have used 107 kWh of renewable energy and the balance from Westar's generation fleet. We would bill the customer for 107 kWh

at 15.6¢/kWh and the energy used in excess of that amount – in this case 793 kWh (900-107 = 793kWh) – would be billed at the customer's then applicable rate. While the customer's applicable rate may change over time, the rate for the portion of the customer's energy that comes from the community solar program will be fixed at 15.6¢/kWh for up to ten years.

Q. WHAT IS THE PURPOSE OF THE COMMUNITY SOLAR PROJECT?

A. The community solar program is intended to be an optional pilot program to meet customers' evolving expectations and preferences with regards to renewable energy and fixed cost options. As we have proposed in this docket, Westar's goal is to utilize this demonstration project to allow Westar and all stakeholders to gather information and determine how best to respond to customers' interests and expectations as well as meet the needs of all customers who want to further support renewable energy generation. In particular, this program will allow customers who cannot otherwise have solar panels (e.g., on an apartment, building, etc.) participate in solar energy production.

Q. WHAT WERE THE PRIMARY SOURCES OF YOUR INFORMATION CONCERNING COMMUNITY SOLAR?

A. Among other sources, we worked closely with Solar Electric Power Association (SEPA), an educational non-profit organization

dedicated to helping utilities integrate solar energy into their portfolios.

SEPA operates under the following guiding principles:

- Utilities must be a critical part of the equation for solar energy to live up to its full potential in serving the public good.
- The long term economic health of utilities, solar companies and their customers will be strengthened through partnership.
- The regulatory compact must evolve to support utility business models that encourage both central stations and distributed solar deployment.
- Upgrades and advancements are needed to grid infrastructure, enabling technologies, and grid operations in order for solar energy to reach maximum potential.

We also used research gathered from customers through customer surveys and focus groups. A survey conducted by KU Consulting showed that 97% of our customers had some interest in renewable energy and 69% indicated that we were not providing enough renewable resources to our customers.

Q. HOW MUCH WILL IT COST A CUSTOMER TO PARTICIPATE IN THE VOLUNTARY COMMUNITY SOLAR DEMONSTRATION PROJECT?

A. Customers will have the opportunity to purchase a portion of the community solar generation in shares. Customers are limited to a maximum of three shares. Each share of the solar program will be equal to 107 kWh. The customer will pay 15.6¢/kWh for those 107

kWh each month as long as they stay in the program for up to 10 years. Our approach provides price stability and additional rate options. The program requires no investment from the customer to participate.

Q. WHAT CUSTOMERS WILL BE ELIGIBLE TO PARTICIPATE IN THE COMMUNITY SOLAR DEMONSTRATION PROJECT?

A. Community Solar subscriptions will be available to all residential, small general service, and medium general service customers, and customers on school or church rates who are in good standing, not currently on a pay agreement or enrolled in our pilot Pay As You Go Prepay program.

Q HOW LONG IS THE CUSTOMER OBLIGATION TO PARTICIPATE?

A. Customers cannot leave the program or decrease their number of shares for the first year of participation unless they leave the Westar service territory, but they can add shares if they are available at any time including during the first year or thereafter (based on availability). After the first year, customers are free to decrease their shares or leave the program. When a change in the number of shares is made (increased or decreased) customers cannot decrease their shares again for one year.

Q WHAT HAPPENS IF YOU HAVE MORE CUSTOMER INTEREST THAN SHARES OF THE PROGRAM?

A. The program will have a limited number of shares available based on the amount of solar generation we have installed. Once all shares are subscribed, customers wishing to participate will be placed on a wait list and will be able to participate on a first-come, first-served basis. They will be notified as shares become available.

Q. WILL THE AMOUNT OF EACH COMMUNITY SOLAR SHARE CHANGE FROM MONTH TO MONTH BASED ON SOLAR FACILITY GENERATION?

A. No. Each share will be fixed at 107 kWh per month.

Q. WHAT HAPPENS IF SOLAR GENERATION FALLS BELOW THE KWH SUBSCRIBED SHARES?

A. Our limited program shares are based on the estimated generation of our solar facilities. Though unlikely, the possibility exists that due to weather or mechanical issues, our solar generation will be less than amount of solar energy we have sold. However, Westar has other forms of renewable energy generation that will allow us to meet the customer demand for renewable energy shares sold.

Q. DO CUSTOMERS WHO PURCHASE SHARES IN THIS PROGRAM OWN THE RENEWABLE ENERGY CREDITS (RECS) ASSOCIATED WITH THEIR SHARE?

A. No. All RECs will be owned and retired by Westar.

Q. WHAT INFORMATION DOES WESTAR HOPE TO GAIN FROM THE PILOT PROGRAM?

A. The purpose of the community solar pilot program is to better understand the customer interest, demographics, and motivation for participating in a fixed rate renewable energy program. Customer research will be completed as part of the pilot. The objectives will be to:

(1) identify the level of customer interest in renewable energy;

(2) monitor and measure the generation from solar facilities;

(3) determine characteristics of customers who purchase shares;

(4) measure the effects of a fixed rate renewable energy option on customer satisfaction; and

(5) determine the size of the customer segment(s) likely to participate.

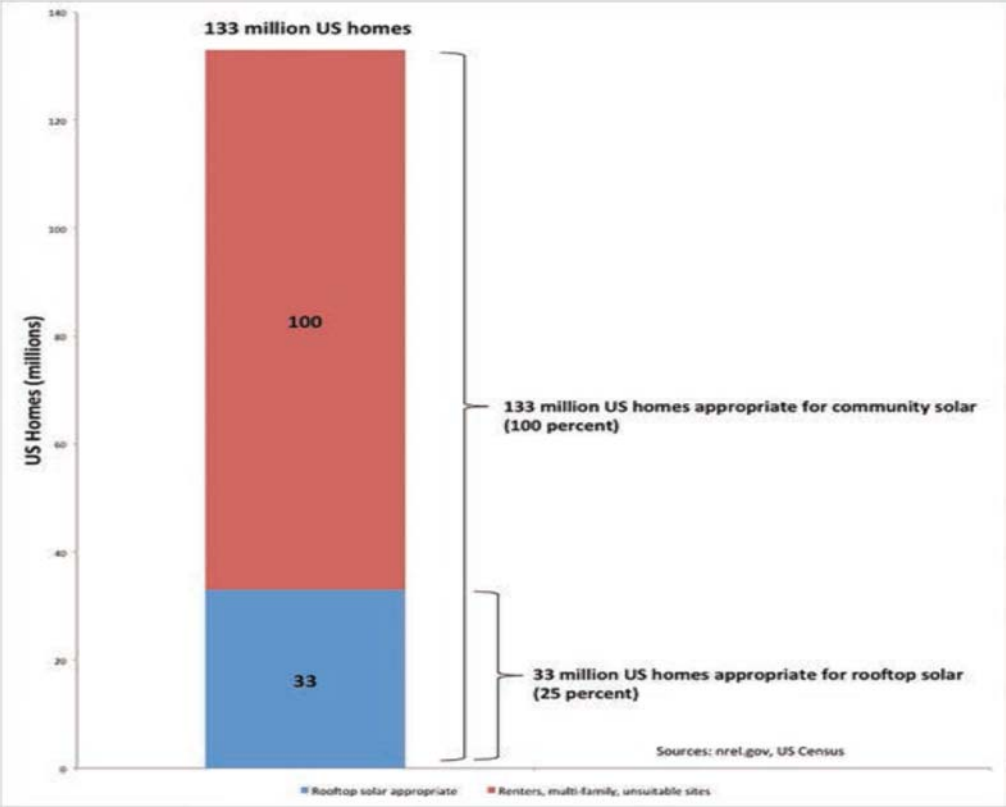
Q. IS THIS PROGRAM IN COMPETITION WITH ROOF TOP SOLAR?

A. No. The program complements roof top solar. The purpose of the program is to provide an option to customers without access to roof top solar and others who cannot or choose not to install roof top solar but nevertheless want to purchase solar energy.

Q. ARE THERE A LARGE NUMBER OF HOMES IN THE UNITED STATES THAT ARE NOT SUITABLE FOR SOLAR INSTALLATIONS?

A. Yes. A study done by the National Renewable Energy Laboratory (NREL) using data from the US Census shows that only about 25% of the 133 million homes in the United States are suitable for roof top solar. Chart 1 below shows this dichotomy.

Chart 1
U.S. HOMES SUITABILITY FOR ROOFTOP SOLAR



Q. ARE OTHER UTILITIES INSTALLING COMMUNITY SOLAR?

A. Yes. MidWest Energy in Hays, Kansas recently installed a community solar facility. Community solar programs can also be found in Arizona, California, Colorado, Delaware, Florida, Georgia, Iowa, Kentucky, Minnesota, Nebraska, Oregon, Utah, Vermont, and Washington.

Q. WHAT EVIDENCE IS THERE THAT UTILITY CUSTOMERS ARE INTERESTED IN A COMMUNITY SOLAR OPTION?

A. As noted above, other utilities are installing or have installed community solar. Customers are already participating in community solar programs in a growing number of states. An August 2014 SEPA report on community solar states that investor-owned utilities have announced 15 community solar programs with eight in operation and seven in the planning stages. The report shows that more than half of existing community solar projects have a subscription rate of greater than 95%.

Q. WHAT ARE THE BASIC PROVISIONS OF WESTAR'S PROPOSED COMMUNITY SOLAR PROGRAM?

A. The basic provisions of the Community Solar program are:

- Voluntary program.
- Pilot project for ten years.
- Limited to 150 customers. A waitlist will be maintained.
- Eligibility: customers in good standing eligible from rate classes: residential, SGS, MGS, and school and church rates. Excludes Pay As You Go customers.
- Customers from anywhere in Westar's territory can participate.
- System size will be approximately 100 - 200 kW, located in Topeka and Wichita dependent on final site locations.
- Cost of developing and constructing the community solar facilities will be included in Westar's plant-in-service upon completion.

- Customers pay 15.6 cents per kWh for each share, fixed for the 10 year life of this pilot.
- RECs will be retained by Westar and retired on behalf of our customers.
- Shares come in fixed 107 kWh/month increments based on the system's estimated average production.
- Customers can choose one, two or three shares.
- Customers are taken off the program if they leave Westar territory.
- Customers can transfer the program to a new residence in Westar territory.
- Minimum participation term is one year.
- No upfront participation fees.

Q. PLEASE PROVIDE A DESCRIPTION OF BUSINESS PROCESSES NECESSARY TO IMPLEMENT THE PROGRAM, ESPECIALLY AS THEY RELATE TO CUSTOMER SERVICE.

A. For the pilot, business processes have been purposely simplified in order to facilitate the community solar program implementation.

Customers interested in the community solar choice will speak to a Westar customer service representative (CSR) directly. The enrollment process consists of:

1. Customer speaks with a Westar CSR regarding community solar.
2. The Westar CSR will determine the customer eligibility.
3. Customer determines number of desired shares.
4. The account is set in community solar status.

5. Billing is notified to modify current bill process.

Q. WILL WESTAR USE A THIRD-PARTY PROVIDER TO OPERATE THIS PROGRAM?

A. No.

Q. THANK YOU.